

51-2-11/15

AUTHORS: Vertner, V.N., Degteva, L.V. and Kharionovskiy, Yu.S.  
TITLE: A method of observation of the diffraction-grating profile using  
electron microscope. (Sposob nablyudeniya profilya  
diffraktsionnykh reshetok v elektronnom mikroskope)  
PERIODICAL: "Optika i Spektroskopiya" (Optics and Spectroscopy)  
1957, Vol.3, No.2, pp.181-183 (U.S.S.R.)

ABSTRACT: Both glass and aluminium diffraction gratings were studied.  
For glass gratings a thin silver replica was prepared by vacuum  
deposition; this was strengthened by an electrodeposited cop-  
per layer 0.01-0.02 mm thick. The grating and the replica were  
separated in distilled water. For aluminium gratings double-  
replica technique was used. First a naprodukh (parlodion) re-  
plica was prepared, using a 5% solution in amyl acetate. From  
this a silver-copper replica, as described above, was made and  
parlodion dissolved off in amyl acetate. The replicas were bent  
at right angles to the diffraction grooves and the profile pho-  
tographed using an electron microscope. The results are shown in  
Fig.1 (glass diffraction-grating profile, 50 lines/mm, magnif.  
X 4000) and Fig.2a (aluminium grating profile, 1200 lines/mm,  
magnif. not stated). Fig.2b shows superposition of the profile  
of Fig.2a onto a microphotograph of the replica. This profile  
study is useful in investigation of the effect of groove-cutter  
shape and load. It can be also used to study polished surfaces:

Card 1/2

USSR/Medicine - Veterinary,  
Brucellosis

Sep 53

"Diagnosis of Brucellosis in Dogs with Brucellohydrolysate of the All-Union Institute of Experimental Veterinary Medicine (VIEV)," I. S. Kharischarishvili, Chief Vet Admn, Min Agr and Supplies, Georgian SSR

Veterinariya, Vol 30, No 9, pp 20-23

Tests on dogs with VIEV brucellohydrolysate demonstrated its specificity in diagnosing brucellosis. Subcutaneous injection of 0.2cc of the drug simultaneously with 0.2cc of physiol sol did not produce

270777

serious allergic reactions. Brucellohydrolysate proved most effective if used in combination with reaction of agglutination and with complement fixation reaction.

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KHARISOV, N.Kh., inzhener.

Vibregrinding of binding is a possibility in producing building material. Stroi. pred. neft. prem. 2 no.3:9-11 Mr '57. (MLBA 10:4)  
(Binding materials)

ACC NR: AP6019094 (A.N) SOURCE CODE: UR/6346/66/000/002/0037/0039

AUTHOR: Kharisov, Sh. Kh.; Sakharova, R. V.; Abuzarov, Yu. Sn.

ORG: Kazan' Veterinary Institute (Kazanskiy veterinarnyy institut)

TITLE: Aerogenic method of immunizing cattle against brucellosis

SOURCE: Veterinariya, no. 2, 1966, 37-39

TOPIC TAGS: immunization, brucellosis, immunity, commercial animal, vaccine

ABSTRACT: The authors conducted a comparative study of the antigenic and immunogenic properties of *Brucella bovis* vaccines administered by the aerogenic and subcutaneous methods. The aerogenic method (dosage: 32.4 billion microbe bodies) was harmless for young cattle and produced immunity as stable as that of the subcutaneous method. With both methods immunity was less durable with Strain 82 than with Strain 19. The aerogenic method can be used to vaccinate cattle in sheds if cracks are stopped up and a concentration of vaccine is created that allows the animals to breathe in 32-35 billion microbe bodies in 45 minutes of exposure. [JPRS]

SUB CODE: 06 / SUM DATE: none

Card 1/1

UDC: 619.616.981.42-085-37:636.2

SMIRNOV, A.D.; KHARISOV, Sh.Kh., kand.veterinarnykh nauk

Kazan Veterinary Research Institute. Trudy VIEV 23:324-330 '59.  
(MIRA 13:10)

(Kazan--Veterinary research)

CHEPUROV, K.P., prof.; ARKHANGEL'SKIY, I.I., prof.; SHATOKHIN, N.G.,  
dotsent; VERESHCHAGIN, M.N., prof., zasluzhennyy deyatel' nauki  
Tatarskoy ASSR; ABDULLIN, Kh.Kh., dotsent; KIVALKINA, V.P.,  
dotsent; KHARISOV, Sh.Kh., starshiy nauchnyy sotrudnik

"Veterinary microbiology" by M.V. Revo and M.D. Zmukova. Re-  
viewed by K.P. Chepurev and others. Veterinariia 37 no.7:87-89  
Jl '60. (MIRA 16:2)

1. Kazakhskiy nauchno-issledovatel'skiy veterinarnyy institut  
(for Kharisov).

(Veterinary microbiology)

GABRASOVA, M.A.; KHARISOVA, A.Sh.

Effect of hemosporidin (LP) on heart innervation in frogs. Uch.zap.  
Kaz.un. 116 no.5:181-184 2 '56. (MLRA 10:4)

. (Heart--Innervation) (Veterinary materia medica and pharmacy)

KHARISOVA, A. Sh.

Cand Biol Sci - (diss) "Effect of the central nervous system on the rate of conduction of stimulation in the nerve." Kazan', 1961. 17 pp; (Ministry of Agriculture USSR, Kazan' Veterinary Inst); 150 copies; price not given; author designated on cover; (KL, 5-61 sup, 185)



KHARISOVA, A.Sh.

Influence of the central nervous system on the conduction rate of excitation in a peripheric nerve. Report No.2. Nauch. dokl. vys. shkoly; biol. nauki no.2:87-92 '61. (MIRA 14:5)

1. Rekomendovana kafedroy fiziologii cheloveka i zhivotnykh Kazan-skogo gosudarstvennogo universiteta im. V.I.Ul'yanova-Lenina.  
(NERVES, PERIPHERAL)

KHARIT, M.

PA 38/49T73

USSR/Engineering  
Insulating Materials  
Insulation, Thermal

Jan/Mar 49

"Asbestos-Cement Insulating Blocks," A. Krotov,  
Chief Engr, Tsentrmaslostroy, M. Kharit, Cand  
Tech Sci, 2 pp

"Kholodii Tekh" No 1

Heat insulation fills (slag and others) of boards  
(pressboard, etc.) in use at present in  
refrigerator construction do not satisfy even  
minimum insulation requirements. Discusses  
use of asbestos-cement insulation, made from  
38/49T73

USSR/Engineering (Contd)

Jan/Mar 49

tailings of asbestos-cement production in Moscow  
"Izoplit" Factory. Graphs show hygroscopic  
water absorption and frost-resisting properties  
of asbestos-cement blocks.

38/49T73

AUTHORS: Shpital'nyy, A. S., Kharit, Ya. A. SOV/156-58-3-36/52

TITLE: On the Composition of the Salts Formed by Dicarboxylic Acids With Diamines and Hydrazine (O sostave soley, obrazovannykh dikarbonovymi kislotami s diaminami i gidrazinom)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp. 542 - 544 (USSR)

ABSTRACT: The salts formed under the interaction of aelaic, sebacic, and adipic acids with hexamethylene and ethylene diamine were investigated. It was found that the molecular ratio hydrazine:dicarboxylic acid = 1:1, 1:2 salts are formed having constant composition, in which the ratio of the components is 1:1. In the case of an excess of hydrazine, salts are formed in which the ratio hydrazine:acid = 2:1. By potentiometric titrations of the solutions of these salts it was found that these compounds are acid salts. Salts of dicarboxylic acid with hydrazine and diamine differ, and this difference has an effect on the formation of polyamide resins from these compounds. There are 1 figure and 13 references, 4 of which are Soviet.

Card 1/2

On the Composition of the Salts Formed by  
Dicarboxylic Acids With Diamines and Hydrazine

SOV/156-58-3-36/52

ASSOCIATION:

**Kafedra** iskusstvennogo volokna Leningradskogo  
tekstil'nogo instituta im.S.M.Kirova (Chair for Synthetic  
Fibers at the Leningrad Textile Institute, imeni S.M.Kirov)

SUBMITTED: March 22, 1958

Card 2/2

AUTHORS: Shpital'nyy, A. S., Kharit, Ya. A. SOV/79-28-10-13/60

TITLE: On the Formation Process of the Polyamide Resins  
(O protsesse obrazovaniya poliamidnykh smol)  
VII. On the Composition and the Structure of the Salts Formed  
From Dicarboxylic Acids and Diamines, or Hydrazine  
(VII. O sostave i stroyeni sley, obrazovannykh dikarbonovymi  
kislotami i diaminami ili gidrazinom)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2687-2693  
(USSR)

ABSTRACT: Shpital'nyy and his collaborators had found in their earlier  
paper (Ref 1) that salts from dicarboxylic acids and diamines  
of the aliphatic series are of constant composition although  
they may be acid or neutral, and they also found that this  
composition is not dependent on the ratio between the reacting  
components. The composition of a salt was determined by the  
magnitude of the ratio of the dissociation constants of the acid.  
If this ratio is small, neutral salts are formed, which would  
otherwise be acid. These conclusions were drawn by the  
authors when investigating adipic, succinic and oxalic acid.  
They are completed by azelaic and sebacic acid in this paper.

Card 1/3

On the Formation Process of the Polyamide Resins. SOV/79-28-10-13/60  
VII. On the Composition and the Structure of the Salts Formed From  
Dicarboxylic Acids and Diamines, or Hydrazine

The stability of the composition of the salts from diamines and azelaic, as well as sebacic acid was found. These salts were obtained at different molar ratios of the initial products, as was the case with the other dicarboxylic acids according to reference 1. The hydrazine forms salts with sebacic acid and azelaic acid, which contain equimolecular amounts of bases and acids. Adipic and succinic acid form such salts only if there is no excess of hydrazines. Such an excess yields salts of the composition -2 mole hydrazine : 1 mole acid. It was found that the hydrazine in aqueous solutions of the salts in which there are the hydrazine and a dicarboxylic acid in equimolecular amounts behaves like a monovalent base. The composition of the polyamide resins formed from the dicarboxylic acids and diamines or hydrazine apparently depends on the magnitudes of the dissociation constants of the initial products according to the compositions of the salts of the corresponding compounds. The 3 tables contain the composition and structure of the salts formed from the components mentioned. There are 1 figure, 3 tables, and 16 references, 4 of which are Soviet.

Card 2/3

On the Formation Process of the Polyamide Resins. SOV/79-28-10-13/60  
VII. On the Composition and the Structure of the Salts Formed From  
Dicarboxylic Acids and Diamines, or Hydrazine

ASSOCIATION: Leningradskiy tekstil'nyy institut  
(~~Leningrad Textile Institute~~)

SUBMITTED: October 26, 1957

Card 3/3

S/080/60/033/008/013/013  
A003/A001

AUTHORS: Shpital'nyy, A.S., Kharit, Ya.A., Sokolovskiy, M.A. 9

TITLE: The Production of Modified Polymers <sup>1</sup> on the Base of Using Polyamide Wastes

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 8, pp. 1907-1908

TEXT: A method was developed for producing modified polyamides from wastes based on the interaction of polyamides with those monomers, the structure of which made it possible to obtain copolymers. A mixture of the polyamide and the monomer was heated for 3 hours at 260-270°C in the autoclave in an inert medium. Poly-caprolactam crumbs, polyamide wastes and polyamide articles out of use and AΓ(AG) and CΓ(SC) salts are the initial materials. After 3-hour heating the reaction mass is heated for 1 hour in the vacuum or at atmospheric pressure, but with a continuous supply of nitrogen into the reaction vessel. In all cases copolymers were obtained, the viscosity of which and their solubility in an alcohol-water solution did not differ from copolymers obtained from the corresponding monomers. The copolymers obtained dissolve in a hot alcohol solution. There is 1 table and 11 references: 8 Soviet, 1 English, 1 American and 1 Japanese.

SUBMITTED: January 22, 1960

Card 1/1

APPROVED FOR RELEASE: 09/17/2001

83978  
CIA-RDP86-00513R000721810019

S/080/60/033/009/011/021  
A003/A001

158107

AUTHORS: Shpital'nyy, A.S., Shpital'nyy, M.A., Kharit, Ya.A.

TITLE: Some Problems of Theory and Practice of Polyamide Formation

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 9, pp. 2108-2112

TEXT: The interaction of caprolactam <sup>1</sup> with adipic, succinic and benzoic acids or with ethylenediamine, hexamethylenediamine and aniline (Ref. 6) was investigated. The molar ratios of caprolactam:adipic acid were 1:1, 2:1, 4:1, 100:5. The interaction products with two or three structural groups had a wax-like appearance. The products with 5 structural groups were similar to hard resin. At a ratio of 1:1 the reaction runs to completion within 3 hours. Benzoic acid reacts at 240°C during long heating only with  $\frac{1}{3}$  of the caprolactam volume. The activators for the transformation of caprolactam into the polymer can be divided into two groups: activators causing only reactions of the polymerization type (carboxylic acids, organic bases and alkali agents) and activators promoting reactions of polymerization and polycondensation types (water, amino-acids). The experiments have shown that the fastest transformation of caprolactam is obtained where many compounds with functional groups having opposite

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158107

S/079/60/030/010/026/030  
B001/B066

AUTHORS: Shpital'nyy, A. S., Kharit, Ya. A., Chernomordik, R. B.,  
and Kulakova, D. G.

TITLE: Formation of Polyamide Resins. <sup>15</sup>XI. Synthesis of  
Polyamides by Interfacial Polycondensation

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 10,  
pp. 3430 - 3434

TEXT: According to the interfacial polycondensation described in Ref.1, polyamides of the nylon<sup>6</sup> type 66 and perlon type are now synthesized from diamines, dicarboxylic acids, or caprolactams, while polyurethans are synthesized from diisocyanates and glycols. Dicarboxylic acid is replaced by its acid chloride, and instead of diisocyanates and glycols it is possible to use the chlorocarbonic acid esters of glycols and diamines (Ref.2). Polymers of high molecular weight are quickly obtained by interfacial polycondensation at a fairly low temperature. As this method had also been used for the synthesis of polyamides, which has been earlier studied by the authors, they checked their theory of the formation

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Formation of Polyamide Resins. XI. Synthesis S/079/60/030/010/026/030  
of Polyamides by Interfacial Polycondensation B001/B066

of polyamides through interfacial polycondensation, taking into account the effect of the structure of the initial compound on the reaction carried out. In interfacial polycondensation carboxylic acids are replaced by acid chlorides. It is to be assumed that the substitution of chlorine for the hydroxyl group of the carboxyl and the impossibility of dissociation increases considerably the electrophilic activity of the carbon atom of the carboxyl group. The smooth course of reaction at room temperature can only be explained in this way, while in other cases amidation requires high temperatures. The reaction scheme of amidation through interfacial polycondensation is not assumed to differ from the schemes given. Therefore, amidation is expected to take place according to the given scheme (Refs. 3,5). The various kinds of amidation indicate that the activity of the functional groups influences the reaction rate considerably (Refs. 3 and 4). Consequently, the mechanisms of ordinary amidation do not differ from those of the above-mentioned amidation. The low polyamide yield of interfacial polycondensation can be raised by increasing the number of carbon atoms in the acid chloride, or by replacing a linear component by a cyclic one (in certain cases, viscosity is also increased). The further investigation of the reaction

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Formation of Polyamide Resins. XI. Synthesis of Polyamides by Interfacial Polycondensation S/079/60/030/010/026/030 B001/B066

course of the chain components showed that a ring 
$$\begin{array}{c} \text{OC} - \text{R} - \text{CO} \\ | \qquad \qquad | \\ \text{HN} - \text{R}_1 - \text{NH} \end{array}$$

is formed in addition to the polymer. Thus, low yields of polymers are primarily do to the fact that the reaction takes place in two directions under the formation of linear polymers and low-molecular, cyclic compounds. The structure of the initial components considerably affects the polyamide yield in interfacial polycondensation. The authors mention a paper by B. A. Poray-Koshits. There are 7 references: 4 Soviet, 1 French, 2 US, and 1 Japanese. X

ASSOCIATION: Leningradskiy tekstil'nyy institut (Leningrad Textile Institute)

SUBMITTED: November 12, 1959

Card 3/3

SHPITAL'NYY, A.S., KHARIT, Ya.A., CHERNOMORDIK, R.B., KULAKOVA, D.G.

Characteristics of the preparation of polyamides by means of  
polycondensation at the interface. Zhur.prikl.khim. 33 no.5:  
1150-1154 My '60. (MIRA 13:7)

1. Leningradskiy tekstil'nyy institut imeni S.M. Kirova.  
(Polyamides)

SHPITAL'NYY, A.S.; SHPITAL'NYY, M.A.; KHARIT, Ya.A.

Formation of polyamide resins from caprolactam, diamines,  
and dicarboxylic acids. Khim.volok. no.3:13-14 '60.  
(MIRA 13:7)

1. Leningradskiy tekstil'nyy institut im. Kirova.  
(Nylon)(Hexamethylenimine) (Amines) (Acids)

SHPITAL'NYI, A.S.; SHPITAL'NYI, M.A.; KHARIT, Ya.A.

Some aspects of the theory and practice of polyamide synthesis.  
Zhur. prikl. khim. 33 no.9:2108-2112 S '60. (MIRA 13:10)  
(Polyamides)

SHPITAL'NYY, A.S.; KHARIT, Ya.A.; CHEPNOMORDIK, R.B.; KULAKOVA, D.G.

Process of polyamide resin formation. Part 11: Synthesis of  
polyamides by means of interfacial condensation. Zhur.ob.khim. 30  
no.10:3430-3434 0 '61. (MIRA 14:4)

1. Leningradskiy tekstil'nyy institut.  
(Polyamides)

25395

S/080/61/034/002/016/025

A057/A129

15.8080

AUTHORS: Shpital'nyy, A.S., Shpital'nyy, M.A., Kulakova, D.G., Kharit,  
Ya.A., Sorokin, A.Ya.

TITLE: On conditions effecting the yield, viscosity and other properties of polyamides in synthesis by the method of phase interface polycondensation

PERIODICAL: Zhurnal Prikladnoy Khimii, v 34, no 2, 1961, 408-412

TEXT: The present paper is the 12th communication of the series "On the process of polyamide resin formation". The discussion concerning conditions for increasing yield and viscosity of polyamides obtained by phase interface polycondensation is continued and data are presented on the use of this method for syntheses of modified polyamides. The present investigations were important, since only polyamides with sufficient high molecular weights and good yield are of interest. In previous works

X

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S/080/61/034/002/016/025  
A057/A129

On conditions effecting the yield, ...

(Ref 3: ZhPKh, 33, 1150 (1960)) the present authors observed that the structure of the initial monomers is of particular importance for the viscosity and yield of the obtained polyamides. This was confirmed by the present experiments. It can be seen from results presented in Table 1 that the effect of concentration of initial monomers or of mixing of the components is very low, while substitution of adipylchloride by sebacylchloride sharply increases viscosity and yield of the polymer. This effect can be explained by hypotheses concerning phase interface polycondensation developed by P.W. Morgan (Ref 4: SPEJ, 15, 485 (1959)), i.e., by the diffusion of diamine from the aqueous into the organic phase where polycondensation occurs. Sebacylchloride, containing a longer molecular chain, is more hydrophobic than adipylchloride. Thus the latter diffuses much more quickly from organic into aqueous phase emerging from the reaction zone, which decreases yield and viscosity of the polyamide. Hence phase interface polycondensation using adipylchloride hardly seems reasonable. Experimental results in Table 1 demonstrate also the favorable substitution of hexamethylene diamine by piperazine. In the previous work (Ref 3) formation of a cyclic diamide in polycondensation of adipylchloride and

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A057/A129

On conditions effecting the yield, ...

hexamethylenediamine was observed. Accordingly, in the present experiments a cyclic diamide (melting point  $225^{\circ}$ - $226^{\circ}\text{C}$ ) was isolated from the polycondensation product of sebaoylchloride and hexamethylenediamine. By co-polycondensation of caprolactam and salt  $\text{A}^{\Gamma}$  (AG) products can be obtained which are soluble in alcohol solutions and have low melting points. In the present investigations a corresponding copolymer was obtained by phase interface polycondensation. It was observed that the properties of modified polyamides depend not only on the structure of the initial monomers, but also on other factors, particularly on the degree of destruction of structure regularities in the polyamide. In order to increase the effectiveness in decrease of the structure regularity of the copolymer, the present authors substituted caprolactam by polyamide caprone in phase interface polycondensation with hexamethylenediamine and obtained polyamides completely soluble in hot alcohol solutions. Polycondensation without mixing was carried out in the present experiments by the removal of the film formed in the phase interface of the aqueous solution containing diamine and alkali and the benzene solution containing the chloroanhydride of dicarboxylic acid. The cyclic diamide was isolated by a method

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A057/A129

On conditions effecting the yield, ...

described previously (Ref 3). Diffusion rate of the chloroanhydride was determined (cooperation of M.P. Vasil'yev and V.D. Shakhanov) by measuring the chlorine content in the aqueous phase. Polycondensation of hexamethylenediamine (I) and caprolactam (II) was carried out (cooperation A.V. Budyllov) by heating 11.5 g (II) and 23.3 g (I) at 265°C-270°C for 8 hrs in a sealed ampoule. Then the excess (I) was distilled off, 1.2 g of the residue was diluted in 25 ml H<sub>2</sub>O and 0.78 g NaOH was added. On the other hand 0.3 g adipylchloride (III) was dissolved in 25 ml benzene. By mixing the two solutions the polymer is precipitated with a 55.7% yield, having a melting point of 210°C-215°C. The polyamide from (I) and caprone (IV) fiber was obtained by heating 2.26 g (IV) and 2.32 g (I) in a sealed ampoule at 265°C for 9 hrs. After that the excess (I) was distilled off. The following characteristics are given for the polymer obtained with (III): viscosity of the 0.5% solution in tricresol  $\eta$  = 0.875, melting point 160°C, readily soluble in 90% ethanol. There are 2 tables and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: June 11, 1960

Card 4/6

SHPITAL'NIY, A.S.; KHARIT, Ya.A.; KAUFMAN, Kh.Ya.

Process of polyamide formation. Part 14: Composition and structure  
of salts formed by dicarboxylic fatty acids and piperazine. Zhur.-  
ob.khim. 32 no.6: 1981-1984 Je '62. (MIRA 15:6)  
(Acids, Fatty) (Piperazine) (Polyamides)

S.080/63/036/002/019/019  
104 2 57

AUTHORS: Kharit, Ya. A., Shpital'nyy, A. S. and Sokolovskiy, M. A.

TITLE: Preparation of copolymers based on caprone and AH salt

PERIODICAL: Zhurnal prikladnoy khimii, v.36, no. 2, 1963, 467-468

TEXT: Continuation of earlier work (ZhPKh, 33, 1907 (1960)) which was concerned with modifying polycaprolactam by interactions with monomers of structure capable of yielding copolymers. The reaction mass was heated at 260 - 270°C, for 3 hours, under a negligible pressure, followed by 1 hour at reduced pressure; this yielded highly viscous copolymers which gave good films from alcohol. In the present study, the effect of deviations from these conditions on copolymer properties were investigated. Polycondensation of caprone or caprolactam with AH salt over 1 to 24 hours, at 260 - 300°C, with and without subsequent 1 hour heating at the same temperature at 5 mm Hg, showed that: 1. Duration of the re-

Card 1/2

Preparation of copolymers ...

S/080/63/036/002/019/019  
D204/D307

action had practically no effect on the specific viscosity  $\eta$ , whilst (2) the supplementary 1 hour heating at 5 mm Hg made the viscosity a function of previous duration of polycondensation -  $\eta$  decreased with longer reaction times. Copolymers soluble in alcohols could be prepared by carrying out the reactions at 265 + 100°C. for 3 hours, without solvent, in an inert medium, with subsequent heating for 1 hour at 5 mm Hg. The results are discussed. This is 1 figure.

SUBMITTED: June 10, 1961

Card 2/2

KHARIT, Ya.A.; SHPITAL'NIY, A.S.; SOKOLOVSKIY, M.A.

Preparation of copolymers based on capron and AG salt. Zhur.prikl.khim.  
36 no.2:467-468 F '63. (MIRA 16:3)  
(Nylon) (Polyamides)

KHARIT, Ya. A.

Composition and structure of salts from diamines and dicarboxylic acids. Zhur. ob. khim. 34 no. 3:1032-1034, Mar '64. (MIRA 17:6)



KOZLOV, Pavel Vasil'yevich, prof.; BRAGINSKIY, Gerts Irmovich, dots.;  
Prinimali uchastiye: SHIFRINA, V.S.; KHARIT, Ya.A.;  
KOROSTYLEV, B.N.; SOROKINA, R.A.; ZHERDETSKAYA, N.N., red.

[Chemistry and technology of polymer films] Khimiia i tekhnologiiia polimernykh plenok. Moskva, Iskusstvo, 1965. 623 p.  
(MIRA 18:7)

**"APPROVED FOR RELEASE: 09/17/2001**

**CIA-RDP86-00513R000721810019-2**

**APPROVED FOR RELEASE: 09/17/2001**

**CIA-RDP86-00513R000721810019-2"**

...vinyl Alcohol Fiber, ...

**"APPROVED FOR RELEASE: 09/17/2001**

**CIA-RDP86-00513R000721810019-2**

**APPROVED FOR RELEASE: 09/17/2001**

**CIA-RDP86-00513R000721810019-2"**

KHARIT, Yu.A., kandidat tekhnicheskikh nauk, dotsent.

Transition line in a pipe elbow with inclined conical branch  
pieces. Trudy BIIZHT no.1:140-146 '57. (MLRA 10:9)  
(Pipe) (Geometrical drawing)

KHARITANOVSKIY, A.A.

Prominent naturalist of K m .atka. Vop. geog. Kanch. no.1:41-50 '63.  
(MIRA 17:10)

KHARITANOVSKIY, Aleksandr Aleksandrovich; DOBRONRAVOVA, K.O.,  
red.; POLOZHENTSEVA, T.S., mlad. red.

[Man with an iron deer; tale about a forgotten feat]  
Chelovek s zheleznyim olenem; povest' o zabitom podvige.  
Moskva, Mysl', 1965. 221 p. (MIRA 18:12)

1944-1945  
1944-1945  
1944-1945

1944-1945, M.: Khimchepa, 1944-1945

1944-1945, M.: Khimchepa, 1944-1945

1944-1945, M.: Khimchepa, 1944-1945

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1944-1945, M.: Khimchepa, 1944-1945  
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"APPROVED FOR RELEASE: 09/17/2001

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**CIA-RDP86-00513R000721810019-2"**

ACC NR: AT7006296

SOURCE CODE: UR/0000/66/000/000/0148/0152

AUTHOR: Kaban, A. P.; Ul'berg, Z. R.; Kharitinych, N. Ye.

ORG: none

TITLE: Study of the interaction of polystyrene molecules with highly dispersed metal particles

SOURCE: AN UkrSSR. Sintoz i fiziko-khimiya polimerov (Synthesis and physical chemistry of polymers). Kiev, Naukova dumka, 1966, 148-152

TOPIC TAGS: metallopolymer material, polystyrene, lead, bismuth, manganese, chemical dispersion

ABSTRACT: In order to establish the nature of the interaction between polystyrene macromolecules and colloidal particles of lead, bismuth and manganese, the systems formed were studied with an EM-5 electron microscope (at a magnification of 35000), and by x-ray diffraction, and the swelling of the corresponding interaction products was determined in 30% toluene + 70% methanol. It was found that the degree of swelling of metallopolymers containing from 0.3 to 1.5% manganese and bismuth is almost one-half that of pure polystyrene. Highly dispersed lead had no effect on the swelling of polystyrene. The decrease in the degree of swelling of polystyrene is apparently due to denser packing of the macromolecules at the surface of the highly dispersed metals. An adsorptive-chemical interaction between the polymer macromole-

Card 1/2

ACC NR: AT7006296

cules and the dispersed metals is thought to take place. Orig. art. has: 3 figures and 1 table.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 002

Card 2/2

KHARITON, G.

USSR / Soil Science. Organic Fertilizers.

J-3

Abs Jour : Ref Zhur - Biologiya, No 16, 1958, No. 72724

Author : Geller, I. A.; Kharitono, G.

Inst : Not given

Title : Effectiveness of Bacterial Fertilizers Depending on the  
Cultivation of the Soils

Orig Pub : Microbiol. zh., 1957, 19, No 4, 35-39

Abstract : No abstract given

Card 1/1

AP5020229

1970-1971 1972

Johnson, E. M.; Khimchenko, Y. I.; ...

Effect of colloidal lead on the thermal degradation of polystyrene

...zhurnal, v. 27, no. 4, 1966, 1112-1114

polystyrene, thermal degradation, thermal stability, ... polymer, organometallic polymer

The purpose of this work was to show the influence of the content of colloidal metal particles on the thermal stability of polystyrene. Colloidal lead was prepared up to the extent of 0.5 g/l. ... using a rotating cathode. ... phase was introduced into the ... of polystyrene in toluene, ... case was caused by ...



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APR 20 1964

1964

81

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CIA-RDP86-00513R000721810019-2"



L 41623-66 EWT(d)  
ACC-NR-AP6012422

ICH  
(A)

SOURCE CODE: UR/0111/65/000/012/0030/0030

AUTHOR: Khariton, I. Ye. (Chief engineer of SMU-4 combine)

ORG: Mezhsoravvaz'stroy

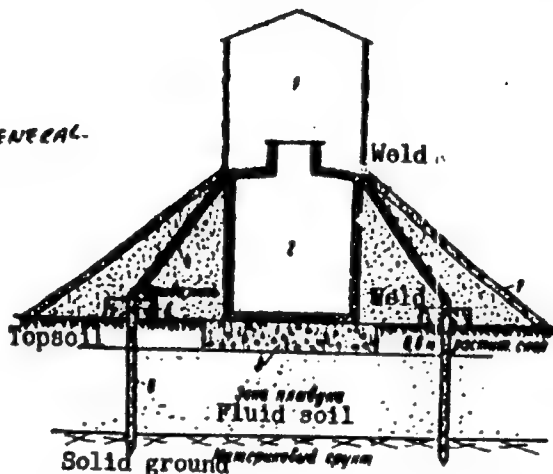
203

TITLE: One method of building an unattended repeater station on incompetent soils

SOURCE: Vestnik svyazi, no. 12,  
1965, 30

TOPIC TAGS: telephone equipment,  
telephone repeater, ~~soil consolidation~~, GENERAL-  
CONSTRUCTION, TELEPHONE SYSTEM

ABSTRACT: The construction of an  
above-grade telephone-repeater-station  
booth is described. The standard under-  
ground vault was impossible to build as  
a fluid subsoil prevailed down to 4.8 m  
depth. The wooden booth 1 (see figure)  
with its tank 2 is erected on foundation  
slab 3 and is supported by channel-  
steel members 4 resting on concrete-  
filled steel piles 6. Concrete belt 5



Above-grade telephone-repeater-station booth

Card 1/2

L 41623-66

ACC NR: AP6012422

holds the 4 piles together. The temperature stability inside the tank is ensured by the earth banked up around the tank and covered with concrete slabs 7. The above structure, built in 1964, did not show any defects during the reported time of 1.5 years. Orig. art. has: 2 figures.

SUB CODE: 7/13 / SUBM DATE: none

Card 2/2 hs

ZASLAVSKIY, S.V., KHARITON, I.Ye.

Laying cables in rocky ground. Vest. svyazi 18 no. 8:29 Ag '58.  
(MIRA 11:8)

1. Nachal'nik Direktsii stroitel'stva kabel'noy magistrali (for Zaslavskiy). 2. Glavnyy inzhener Direktsii stroitel'stva kabel'noy magistrali (for Khariton)  
(Telephone cables)

KHAMITON, I.Ye., inzh.

Cutting trenches in frozen ground for laying cables. Mont. i spets.  
rab. v stroi. 23 no.3:26-27 Mr '61. (MIRA 14:2)

1. Leningradskoye montazhnoye upravleniye tresta Promsvyaz'montazh.  
(Excavating machinery—Cold weather operation)  
(Electric cables)

S/081/62/000/003/051/090  
B156/B101

AUTHORS: Shur, A. M., Khariton, Kh. Sh., Fel'dman, Ya. S.

TITLE: Formation of gypsum polymers. I. Production of gypsum polymers by direct introduction of a monomer

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 3, 1962, 385-386, abstract 3K310 (Izv. Mold. fil. AN SSSR, no. 12 (78), 1960, 85-92)

TEXT: It has been found that introducing small amounts (up to 15%) of polymers soluble in water into water/gypsum mixtures greatly improves the strengths of products. The possibility of producing gypsum polymers based on Moldavian gypsum and furfuryl alcohol, with the monomer and catalyst introduced directly into the composition, was studied, also the mechanism for reaction between the gypsum and the monomer in the mixture. Specimens in the form of small cubes, their sides 4 cm, also regular octahedrons, were prepared. It was found that Moldavian gypsums containing large amounts (up to 7%) of carbonates cannot, when large amounts of acid catalyst are introduced, fully satisfy the requirements, regarding strength

Card 1/2

Formation of Gypsum polymers. I. ...

S/081/62/000/003/051/090  
B156/B101

particulars, for the production of gypsum polymers by the direct introduction of monomer and catalyst into the mixture. Preliminary experiments showed, however, that it is still possible to use them when producing gypsum polymers in mixtures containing prepared resins in aqueous emulsion form. [Abstracter's note: Complete translation.]

Card 2/2

BODYU, V.I.; KHARITON, Kh.Sh.

Pulse-polarographic method for the determination of furfurole  
in stabilized soils, Zhur. anal. khim. 19 no.8:1021-1024 '64.

(MIRA 17:11)

1. Institut khimii AN Moldavskoy SSR, Kishinev.

ACCESSION NR: AP3001587

S/0191/63/000/006/0069/0070

AUTHOR: Matsyuk, L. L.; Khariton, Kh. Sh.; Zobov, Ye. V.

TITLE: Modification of epoxy resins with furfuryl resins

SOURCE: Plasticheskiye massy, no. 6, 1963, 69-70

TOPIC TAGS: modification of epoxy resins, furfuryl resins, physical-mechanical properties, chemical stability, epoxy resin ED-6, furfuryl resins FL-1 and FL-2

ABSTRACT: A study was made to determine if a composition could be prepared combining the high physical-mechanical properties of epoxy resins and the chemical stability of furfuryl resins. Epoxy resin ED-6 alone and in combination with furfuryl resins FL-1 and FL-2 was investigated. The chemical stability and the adhesiveness of FL-1 + ED-6 and FL-2 + ED-6 were equivalent or better than that of ED-6 alone; none of the compositions was resistant to solution by acetone or dichloroethane. The furfuryl modified epoxy resins can be used instead of epoxy resin without fear of deteriorating the properties of the film or objects prepared.

ASSOCIATION: none

SUBMITTED: 00  
Card 1/2

DATE ACQ: 01Jul63

ENCL: 00



ACCESSION NR: AP3001587

SUB CODE: 00

NO REF SOV: 005

OTHER: 001

Card 2/2

FEL'DMAN, Ya.S.; KHARITON, Kh.Sh.; SHUR, A.M.

Formation of gypsum polymers. Izv. AN Mold. SSR no.10:75-80 '62.  
(MIRA 17:12)

LANIN, I.S.; KHARITON, M.I.; GROMOV, N.K., redaktor.

[Control of corrosion in heating networks] Opyt bor'by s korroziei v teplo-  
vykh setiakh. Pod red. N.K.Gromova. Moskva, Gos.energ.izd-vo, 1953. 51 p.  
(MLRA 6:10)  
(Corrosion and anticorrosives) (Heating from central stations)

KHARITON, M. I.

I. S. Lenin and M. I. Khariton, Opyt bor'by s korrozivoy v teplovyykh setvakh (Experience in Combatting Corrosion in Thermal Networks), Gostekhnizdat.

The booklet describes various methods of anticorrosion protection of metal of the internal surface of pipes, which were applied in the operation of the Leninogorsk thermal networks. Particular attention is devoted to the organization, and methods of taking observations on the intensity of corrosion of metal in individual sections of the thermal network.

The booklet is intended for engineers, technicians, and stoker-operators in the field of district heating.

20: Sovetskaya kniga (Soviet Books), No. 183, 1953, Moscow, (U-5472)

BLOKH, S.A., kand.tekhn.nauk; GUZ, D.B., inzh.; RUBASHEVSKIY, I.Ya.,  
inzh.; BAUMAN, A.Zh., inzh.; SEN', Z.P., kand.tekhn.nauk;  
KHARITON, Ya.G., inzh.

Conveyor kiln with a walking hearth for rapid saggerless  
firing of porcelain. Stek. i ker. 23 no.1:29-32 Jn '66.

(MIRA 19:1)

1. Institut gaza AN UkrSSR (for Blokh). 2. Konstruktorskoye  
byuro Ukrainskogo soveta narodnogo khozyaystva (for Rubashevskiy,  
Payman). 3. Ukrainskiy institut stekol'noy i farforo-fayansovoy  
promyshlennosti (for Sen', Khariton).

117 AND 118 (GROUP) PROCESSES AND PROPERTIES INDEX

77 M

KANIVETS (I. I.) & KHRANTON (E. G.). *Приготовление препарата гриба (Trichoderma lignorum) с целью заготовления почв.* [Preparing soil inoculum of the fungus *Trichoderma lignorum*.]—*Hayem. Sem. no Casaph. Ussr.* [Sci. Notes Sug. Ind.], Kiev. [Grey Ser.], xvi, 2-3, pp. 104-108, 1939.

On the basis of four years' study on the beneficial effect of *Trichoderma lignorum* [T. viride: R.A.M., xx, p. 508] on the yield of sugar beet, the following practical method is proposed for the incorporation of the organism into the soil. Dry cake from the extracting press is soaked with boiling water, then cooled down to between 35° to 40° C. and inoculated with pure cultures of *T. viride* on 2 per cent. beet agar, diluted at the rate of 15 to 20 gm. culture to 2 l. water. It is estimated that 15 to 20 or, where available, even 40 kg. press cake can be applied to a 1 ha. field, 100 to 150 c.c. of the diluted pure culture being needed for the inoculation of 600 gm. dry press cake. The inoculated press cake, carefully covered with sterilized paper, is kept for four to six days at a temperature of 25° to 27°, till the surface of the mass is covered with dark green mats of spores. It is then thoroughly mixed with either sterilized peat or black soil to give a mixture for use at the rate of 2 to 3 s. [100 to 150 kg.] per ha. The mixture is either broadcast or placed

COMMON ELEMENTS

COMMON VARIABLES INDEX

COPIES

MATERIALS INDEX

ASS.-SLA METALLURGICAL LITERATURE CLASSIFICATION

BOOK SYMBOL

100000 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021 022 023 024 025 026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046 047 048 049 050 051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069 070 071 072 073 074 075 076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092 093 094 095 096 097 098 099 100

100000 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021 022 023 024 025 026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046 047 048 049 050 051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069 070 071 072 073 074 075 076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092 093 094 095 096 097 098 099 100

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in rows on the soil or on the manure spread over the soil, and ploughed under the same day or early next day.

Positive results were obtained in laboratory tests when seeds of oats or winter wheat were inoculated with water suspensions of press cake containing *T. viride* (15 to 20 gm. pure culture per l. water per ha.), prepared immediately before inoculation, which can be carried out simultaneously with vernalization, or before sowing. Laboratory tests (and in the case of formalin field trials also) showed that *T. viride* survives treatment with various seed disinfectants such as preparation AB, Davidoff's, and formalin.

In the case of winter crops the mixture containing the organism should be incorporated at a depth of 5 to 6 cm. in rows between the rows of seeds.

CA

PROCESSES AND PROPERTIES OF SOIL  
Increased yield of sugar beet, oats and lupine by soil infected with *Trichoderma lignorum*. I. I. Kanavets, R. G. Khariton and R. M. Tul'shinskaya. *Microbiology* (U. S. S. R.) 9, 143-51 (in English, 151-2) (1940); cf. C. A. 33, 4724<sup>9</sup>, 7941<sup>9</sup>; 34, 6718<sup>9</sup>. Under strictly controlled exptl. conditions an increase in nitrates was found in the fungus-infected soil. Moisture retention was improved. Compared with controls the sugar beet yield was higher by 3-15%, according to the dose of fungus prepn applied (100-520 g per 133 kg of soil). Each soil portion contained 81.3 g  $K_2SO_4$ , 107.7 g  $Ca(H_2PO_4)_2$ , 112.5 g  $Ca(NO_3)_2$ , 0.62 g  $NaCl$  and 3.46 g  $CaCO_3$ . The beet seeds were treated with  $KMnO_4$  before planting. The oat seeds were treated with  $HCOOH$  and planted in fungus-infected air-dry and "physically ripe" soil with and without fertilizer. The yield was 12-47% higher than in controls, according to the humidity of the soil and the amt. of fungus and fertilizer at planting. The yield of lupine was greatest when the amt. of *Trichoderma* was 20-60 kg/ha, and the plowing depth was 25 cm. Salin of the soil with the fungus strengthens the compactness of the soil. The fungus survives well throughout the season. A great amt.

of actinomycetes had developed also in the infected soil by autumn.  
I. France

ASB 51.4 METALLURGICAL LITERATURE CLASSIFICATION



KHARITON, Ye. G. and MILLER, I. A.

"The Influence of Oxidation-Reduction Processes on the Soil of the Life Activity of Azotobacter", Mikrobiol Zhur, Kiev, Vol. 12, No. 5, pp 50-59, 1950.



1. GELLER, I. A. and KHARITON, YE. G.
2. USSR (600)
7. "Use of Azotobacter and Other Microorganisms for Increasing the Yield and Saccharinity of the Sugar Beet", Sov. Agronomiya, No. 3, 1951, pp 65-68.
9. Mikrobiologiya, Vol XXI, Issue 1, Moscow, Jan-Feb 1952, pp 121-132, Unclassified.

CA

13

**Azotobacter in soils under grassland crop rotation**

A. Geller and E. G. Khariton (All-Soviet Beet Sugar Research Inst., Kievl. *Mikrobiologiya* 20, 113-116 1951). For bacterial N fixation during crop-rotation cycles, the soil needs org. compds. with low oxidation-reduction potential. Their mineralization depletes the N-fixation capacity of the soil. Manures replenish the org. compds and stimulate N fixation. Effects of several crop plants on azotobacter counts in the soil are noted. J. F. S.

CH 116

The effect of azotobacter on oxidation reduction potential of plant tissue. I. A. Geller and B. G. Khachatryan. Doklady Akad. Nauk S.S.S.R. 78, 1044 (1961). In sugar beet sprouts grown in the presence of azotobacter, the tissue pH declines to 6.03 (normal 6.16) and  $E_h$  drops to 90 (normal 250); wheat shows a similar drop of  $E_h$  but a slight rise of pH. In growing the plants in soils with different characteristic oxidation-reduction potentials, it was shown that to some extent this potential level is reflected in the potential of the plants themselves, possibly owing to the transfer of various types of N-O compds. from the soil. G. M. K.

U.S. Union Sci. Res. Inst. Beet Sugar

1951, 1. 1., RESEARCH, Vol. 3.

Soil Microorganisms

Relation of the sugar beet to the complex of rhizosphere microorganisms of perennial  
crops and winter wheat. Sov. znan. no. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 195~~1~~<sup>2</sup>, 2Uncl.

GELER, I.A.; KHARITON, E.G.

Dynamics of Azotobacter during vegetation in some soils in beet growing districts. Mikrobiol.zhur. 14 no.3:73-77 '52. (MIRA 6:11)

1. Z Vsesoyuznogo institutu tsukrovikh buryakiv m. Kiy.  
(Soil microorganisms) (Microorganisms, Nitrogen-fixing)

KHARITON, E.G.

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721810019

Chemical Abst.  
Vol. 48 No. 8  
Apr. 25, 1954  
Biological Chemistry

3  
Influence of azotobacterin and phosphobacterin in the nutrition of sugar beet. I. A. Geller and E. G. Khariton (All-Union Inst. Sugar Beets, Kiev). Mikrobiol. Zhur., Akad. Nauk Ukr. R.S.R. 13, No. 3, 43-8 (1953) (Russian summary).—Application of azotobacterin to the seed of sugar beet increased the ammonia and nitrate N in the soil and the rate of decompos. of cellulose; it increased the mobilization of the phosphates in the 1st group (extractable with  $(\text{NH}_4)_2\text{CO}_3$ ) readily available for the plant; phosphobacterin affected both 1st and 3rd (extractable with HCl) groups. The observed increase in the sugar contents with these bacterial preps. is obviously connected with the improved P nutrition of the plant.  
B. Gutoff

*REFERENCE, G. S.*  
GELLER, I.A.; KHARITON, Ye.G.

Influence of tillage on the effectiveness of bacterial fertilizers.  
Mikrobiol. zhur. 19 no.4:35-39 '57. (MIRA 11:1)

1. Z Vsesoyuznogo naukovo-doslidnogo institutu tsukovykh buryakiv.  
(TILLAGE) (SOILS--BACTERIOLOGY)



KHARITON, Ye.O.; GELLER, I.A.

Antagonistic interrelationships of some specific micro-organisms of  
the sugar beet [with summary in English]. Mikrobiologiya 27  
no.1:95-98 Ja-F '58. (MIRA 11:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharney svekly,  
Kiyev.

(SUGAR BEETS--DISEASES AND PESTS) (BACTERIAL ANTAGONISM)  
(BACILLUS MESPENTERICUS)

GELLER, I. A.; KHARITON, Ye. G.

Effect of herbicides on soil microflora. Mikrobiologiya 30 no.3:  
494-499 My-Je '61. (MIRA 15:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy  
svекly, Kiev.

(HERBICIDES) (SOILS—MICROBIOLOGY)

GELLER, I.A. [Heller, I.A.]; KHARITON, Ye.G. [Khariton, Ye.H.];  
DOBROTVORSKAYA, O.M. [Dobrotvors'ka, O.M.]

Adsorption of bacteria by the roots of plants. Mikrobiol.  
zhur. 25 no.3:38-42 '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy  
svekly.

KHARITON, M.I., inzh.; LYAGALOVA, V.M., inzh.

Desilication of water from the Neva River by filtrating it  
through a magnesium sorbent. Teploenergetika 8 no.4:10-11  
Ap '61. (MIRA 14:8)

1. Lenenergo.

(Feed-water purification)

IONOMAREV, B.I., KHARIN, Iu.

Practices in rodent control. Veterinariia 41 no.11 1967  
N 164. (RUS 18-11)

1. Izvedyushchuy profpredstavenny otislon Irkutskoy oblasti  
veterinarnoy laboratorii (for Ionomarev). 2. Nauchnik  
dezinfektsionnogo otryada Irkutskoy oblasti veterinarney  
laboratorii (for Kharin).

MACHKOVSKIY, V.A.; KHARINA, V.I.

Optimum composition of the powder for reconditioning of open  
hearth bottoms. Metallurg 10 no.10:21-22 0 '65.

(MIRA 18:10)

1. Makeyevskiy metallurgicheskii zavod.

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R00072181001

KHARISOV, R.G.

Drying lumber by commercial frequency currents. Transp.stroi.  
15 no.10:51-52 0 '65.

(MIRA 18:12)

1. Glavnyy inzh. tresta Ufimtransstroy.

*ad*

5

**Two modifications of hydrogen. Yu. Khariton. *Vysk.*  
Fin. Numb. 10, 95-110(1969).—Review of other- and  
para-II. V. H. Rathmann**

ADDITIONAL METALLURGICAL LITERATURE CLASSIFICATION

2

THE MECHANISM OF SELF-PROPAGATING REACTIONS. K. K. Andreev and Vy. B. Khariton. *Compt. rend. acad. sci. (U. R. S. S.) (N. S.)*, 1, 402-4 (in English 404-6) (1934). The chain theory cannot account for initiation and propagation of detonation as regards propagation in a system the temp. of which may vary over a wide range, the important role of the no. of initial centers, and slow decomposition at high temps. must be considered. It is suggested that a self-propagating reaction can be initiated only as a result of formation of a group of centers localized in time and space. L. G.

ASB-518 METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX																									
1ST AND 2ND ORDERS													3RD AND 4TH ORDERS												
<p>Transmission of detonations in a vacuum. A. F. Bel-  yayev and Yu. B. Khariton. <i>Compt. rend. acad. sci.</i>  <i>U. R. S. S. S.</i> 160(in English 167)(1934).--At the center  of a glass bulb a lead azide crystal (1-2 mg.) was placed  over a hole in a metal disk. Another crystal was placed  under the hole on a strip of mica, which was punctured  when a detonation was transmitted. In air under normal  pressure a detonation was transmitted about 1.5 cm., in  vacuo, about 45 cm. H. B. Van Valkenburgh</p>																									
<p>ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																									
<p>1ST ORDER 2ND ORDER 3RD ORDER 4TH ORDER</p>																									

20

Transmission of a detonation between initiating explosive substances. I. General aspect of the phenomenon. A. F. BELAY and J. B. CHARITON. II. Influence of the distance between the charges and the effect of the surface area of the passive charge on the probability of transmission of a detonation. A. F. BELAY, J. B. CHARITON, and E. RDULTOVSKAJA. III. Size of the particles transmitting the detonation. A. F. BELAY and J. B. CHARITON (Acta Physicochim. U.R.S.S., 1936, 8, 767-766, 767-770, 777-784).— I. The detonation of a 0.002-g. crystal of  $\text{PbN}_3$  (active charge) is transmitted in vac. through distances of the order of 40 cm. to another crystal of  $\text{PbN}_3$  (passive charge). The detonation of the passive charge can be prevented by a screen placed between the two charges, whilst the detonation can be transmitted through apertures in the screen. The sensitivity of  $\text{PbN}_3$  is affected by exposure to air. The probability of transmission over a given distance depends on the method of preparing the passive

charge and on its surface area. Detonation appears to be transmitted by microscopic particles scattered at a velocity of the order of 3 km. per sec. in vac., and at approx. half this velocity in air at a pressure of 12 mm. of Hg.

II. On the assumption that a single microscopic particle is sufficient to detonate the passive charge, the probability of detonation by transmission has been calc. for various distances between the charges, and for various surface areas of the passive charge. The data suggest that the transmission of particles is non-uniform, and is less uniform than that of a random distribution.

III. Calculation gives the no., linear dimensions, and mass of particles ejected from 0.0017 g. active charge as being of the order of  $4 \times 10^3$ ,  $10^4$  cm., and  $10^{-11}$  g., respectively. The law of retardation of a high-speed microscopic particle in air has been deduced. The mechanical action of the particles when they strike a glass surface is described.

C. R. H.

ASU-SLA METALLURGICAL LITERATURE CLASSIFICATION

BOOK SYMBOL

TARGET NO.

ISSUED BY ONLY USE

COLLECTION

BOOK SYMBOL

ISSUED BY ONLY USE

KHARITON, Yu. B., APPIN, A. and TODES, O.

"Thermal Decomposition and Explosion of Methyl Nitrate Vapors," Zhur. Fiz. Khim.,  
8, No.6, pp. 866-882, 1936

Inst. Chem. Phys., Leningrad

KHARITON, Yu. B., BELYAYEV, A. F. and RDULTOVSKAYA, E.

"The Transmission of Detonations From One Explosion-Initiating Substance to Another. II. Dependence of the Probability of Transmission of Detonation on the Distance Between the Charges and From the Passive Charge," Zhur. Eksper. i Teoret. Fiz., No.7, pp. 191-197, 1937

" . . . III. Dimensions of the Particles Transmitting the Detonation," ibid, pp. 198-202, 1937

Detonation of nitrogen trichloride under the action of supersonic waves. V. Boladev and Ya. Kharitonov. *Acta Physicochim U. R. S. S. 7, 416 (1957) (in English).* NCl<sub>3</sub> in a vessel with a very thin glass bottom was immersed in oil at a distance of about 2 cm. from the oscillating crystal. The vibration frequency was 750,000 hertz and the pressure amplitude (calcd. from the rate of heating of the vessel contg. the crystal) was about 2 atm. The detonation took place after irradiation for 9-10 sec. The mech. sensitivity of NCl<sub>3</sub> was also investigated in detail. A drop of NCl<sub>3</sub> detonates under the impact of a wt. of 200 g. falling from a height of 1.2 cm., the blow being distributed over an area of 0.25 sq. cm. W. G. Parks

AD 584 METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
Common ELEMENTS										Common VARIABLES INDEX																			
<p>CP</p> <p>The separation of gases by centrifuging. Yu. B. Khazisev. <i>J. Tech. Phys. (U. S. S. R.)</i> 7, 1470-8(1937); <i>Chem. Zvesti.</i> 1948, 1, 2601.—Calculus and theoretical considerations show that the centrifuging of gases to conc. O<sub>2</sub> or N<sub>2</sub> is not efficient.</p> <p>M. G. Moore</p> <p>2</p>																													
ASB-56A METALLURGICAL LITERATURE CLASSIFICATION																													
1ST AND 2ND ORDERS										3RD AND 4TH ORDERS																			

KHARITON, Yu. B., VALTER, A. F. and KONDRAT'YEV, V. N.

"Problem Book in Physics," Main Publ. House of Tech.Theoret. Lit., Leningrad, 1938  
10th edition. 123 pages.

CP

3

/Chain disintegration of the neutronium uranium isotope.  
A. B. Zel'dovich and Yu. B. Kharon. *J. Exptl. Theoret.  
Phys. (U. S. S. R.)* 9, 1425-7(1939); cf. *C. A.* 34, 7734.  
--Theoretical. Z. and Kh. consider the retardation of  
neutrons formed in U disintegration and the necessary  
conditions for the disintegration. P. H. Rathmann

ASH SLA METALLURGICAL LITERATURE CLASSIFICATION



Transmission of the combustion of explosives into detonation. Yu. B. Khariton and B. M. Stepanov. *Compt. rend. acad. sci. U. R. S. S. 23, 827-9 (1950)* (in English).  
The explosives investigated were liquids, including  $\text{MeNO}_2$ , nitroglycerol, nitroglycerin, mixts. of  $\text{MeNO}_2$  with  $\text{MeOH}$ ,  $\text{Et}_2\text{O}$  or  $\text{PhNO}_2$ , and explosive gelatins consisting of  $\text{MeNO}_2$  with varying amts. of pyroxylin. The sample, in a metallic container 7 mm. in diam., was placed in a thick-walled bomb of 28-cc. capacity and ignited by means of a tuft of gun cotton and an electrically heated wire. If combustion was converted to detonation, the container was destroyed. Combustion of  $\text{MeNO}_2$  passed into detonation if d. of loading exceeded 0.009; for nitroglycerol and nitroglycerin the limiting d. was 0.015. Addn. of inert materials and increase of pyroxylin content of gelatins hindered the transmission; this effect shows the influence of the phys. state. C. G. Storm

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

Transmission of detonation from gases to explosives.  
Yu. B. Khariton and B. V. Rduktovskaya. *Compt. rend.  
acad. sci. U. R. S. S. 23, 630-1(1939)* (in English).  
The explosive,  $\text{MeNO}_3$  or nitroglycerin, was placed in a  
small cup at the bottom of a steel cylinder 1 m. long and  
25 mm. in inside diam., which was filled with  $2\text{H}_2 + \text{O}_2$   
mixture under pressure. When this mixture was ignited elec-  
trically at the top of the cylinder, detonation occurred  
after the flame travelled about 40 cm. When gas pressure  
was 14 atm.,  $\text{MeNO}_3$  detonated. At pressures below 6  
atm., nitroglycerin was unchanged, but at higher pres-  
sures (up to 27 atm.) it burned without detonation.

C. G. Strom.

Chain-forming disintegration of uranium under the action of slow neutrons. Ya. B. Zel'dovich and Yu. B. Khariton. *J. Exptl. Theoret. Phys.* (U. S. S. R.) 10, 23-30 (1940). --The possibility of nuclear chain-reactions (explosions) in the system U-H<sub>2</sub>O were studied, taking into account that after the collision with a proton, the energy of neutron can lie with equal probability anywhere between its original value and zero, and using Breit-Wigner's resonance formula for the fast of 23-e. v. neutrons in the collisions with the heavier U isotope. They calculate the value of  $k_{eff}$ , where  $k$  is the number of neutrons emitted per U nucleus,  $e$  the capture probability of neutron, and  $p$  the probability that the neutron will be slowed down without being captured on the resonance level of U<sup>238</sup>. Under most favorable mixing ratio of U and H<sub>2</sub>O  $k_{eff} = 0.65$ . The condition necessary for the chain reaction is  $k_{eff} > 1$ . It is concluded that the explosive liberation of nuclear energy in this system is impossible. If the concentration of U<sup>235</sup> can be increased by a factor of 2,  $k_{eff}$  becomes equal to unity and the explosion can take place. The calculations have been carried out for infinite media; in the case of small volumes the calculated value of  $k_{eff}$  is considerably reduced, and, in order to obtain the explosion it is necessary to increase the concentration of U<sup>235</sup> still more.

Rokhsana Gamow

Semuril Inst. Chem. Phys.

AND U.S. METALLURGICAL LITERATURE CLASSIFICATION

KHARITON, Yu. B. and ZEL'DOVICH, Ya. B.

"Kinetics of Chain Decomposition of Uranium," Zhur. Eksper. i Teoret.  
Fiz., 10, No.5, pp 477-482, 1940

**Fission and chain decomposition of uranium**. Ya. B. Zeldovich and Yu. B. Khariton. *Izvestia Fr. Akad. Nauk*, No. 4, 329-37 (1940); cf. C. A. 35, 1097. A crit. review of expl. data and theoretical statements. 85 references.

M. Magat

KHARITON, Yu. B. and ROZING, V.

"Failure of Detonation in the Case of Explosive Charges of Small Diameter,"  
Dokl. AN SSSR, 26, No.4, pp 360-361, 1940

Inst. Che.Phys., Leningrad

BC

A-1

Velocities of detonation of nitroglycerol and nitroglycol. J. H. Chariton and S. B. Ratner (*Compt. rend. Acad. Sci. U.R.S.S.*, 1943, 41: 293-295).—There are two (or possibly three) discrete groups of velocities of detonation of nitroglycerol and nitroglycol. In both cases the two determined vals. are  $1.8 \pm 0.2$  and  $7.5 \pm 1$  km. per sec.; the higher velocity can change sharply into the lower. The probability of development of the higher velocity increases with the diameter of the tube. For narrow tubes the lower velocity alone occurs. The detonation stops abruptly when it has been propagated through a length of  $\sim 100$  diameters in narrow tubes. In tubes of diameter  $> 5$  mm. no cessation of detonation was observed in a length of  $> 1$  m. Rapid propagation of detonation may be stimulated in narrower tubes by coupling them with wider ones and starting the detonation within the latter. On passing from wider tubes to very narrow ones, the rapid detonation changes sharply to the lower val. after a short distance. The propagation of the slower detonation may suddenly change to unstable propagation of flame. In nitroglycol the flame has a velocity of  $\sim 0.7$  km. per sec.

A. J. M.

Inst. Chem. Phys., Leningrad

ASB 56.4 DETALLUGICAL LITERATURE CLASSIFICATION

**Limit diameter of a charge of ammonium nitrate** A. P. Belavay and Yu. B. Khayton. *Chem. zhurn.* 1964, 40, 250-251 (1964). A series of expts. were carried out to det. the stability of the detonation of  $\text{NH}_4\text{NO}_3$  for various charge diams. with an aim towards establishing (1) the limit charge diam. for  $\text{NH}_4\text{NO}_3$ , and (2) whether it is possible to effect stable detonation of  $\text{NH}_4\text{NO}_3$  when the charge is sufficiently large, without using a strong or heavy casing or a powerful initiator. Dry powd. nitrate (d. 0.7-0.8 g/cc) was packed into thin-walled glass or cardboard casings of varying diam. Initiation was effected with a mixt. of 3% TNT and 0.5%  $\text{NH}_4\text{NO}_3$ , which occupied the upper part of the casing and was set off by an elec. detonator. The expts. were carried out in an explosion chamber with short charges (the entire course of the detonation being recorded photographically) and under field conditions with relatively big charges of considerable length. Stable nondamping detonation of  $\text{NH}_4\text{NO}_3$  was observed in those cases where the charge diam. was greater

than 80-100 mm. The detonation damped when the diam. was less than 80-100 mm.; the smaller the diam. of the charge, the more abrupt was the damping. A heavy casing decreased the limit charge diam. In aq. or thick concrete casings it amounted to about 30-40 mm. B. and K. conclude that  $\text{NH}_4\text{NO}_3$  does not differ in principle from other explosives and is not unique. The opinion that only induced unstable detonation can spread through the nitrate is incorrect. If the term is used at all, it is applicable only for diams. smaller than the limit diam., and not only for  $\text{NH}_4\text{NO}_3$  but also for any explosive, whose charge diam. is less than the limit diam. Finally, explosives with a still smaller heat of explosion than  $\text{NH}_4\text{NO}_3$  (e.g. a mixt. of  $\text{NH}_4\text{NO}_3$  with some inert substance) should have a greater reaction time and a greater limit diam. than  $\text{NH}_4\text{NO}_3$ . Frank Conet

ASAC SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND CODES										3RD AND 4TH CODES									
PROCESSES AND PROPERTIES INDEX																			
<p>Volatilization of aluminum oxide in the detonation wave.            S. B. Ratner and Yu. B. Khariton. <i>J. Phys. Chem.</i>            (U.S.S.R.) 20, 221-2 (1946).—Al raises the blasting power            but does not affect the brisance of explosives if its concn.            is 20%. Smaller addns. of Al (5-10%) also raise the bris-            ance of <math>\text{NH}_4\text{NO}_3</math>. Probably large amts. of Al do not in-            crease the brisance because the volatilization of <math>\text{Al}_2\text{O}_3</math>            absorbs heat. When the detonation products expand and            their temp. drops, the <math>\text{Al}_2\text{O}_3</math> vapor condenses and its latent</p>										<p>heat of vaporization is liberated; this enhances the blast-            ing effect.            I. I. Blikerman</p>									
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>1ST AND 2ND CODES</p>										<p>3RD AND 4TH CODES</p>									

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"The Limit Diameter of a Charge of Ammonium Nitrate," Dok. AN, 48, No. 4, 1947

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P. Kondrikov, S. B.; Orlov, Ye. Yu.; Svetlov, S.

Biography of Konstantin Konstantinovich Andreyev

zhurnal khimicheskoy khimii, v. 39, no. 2, 1961, 111-112

explosive theory, explosive combustion, detonation, critical  
diameter, n tro derivative

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1929 from the khimicheskii fakul'tet, Moscow State University.  
Khimicheskaya (Chemical Faculty of the Moscow State University School),  
approximately one year at the Physical Chemistry Department of the  
under the guidance of the well-known German chemist Prof.  
several years spent at the MVTI, he spent the last years  
Leningrad (Institute of Chemical Physics). In 1937 he became  
head of the Moscow State University Institute of Chemical  
Mendeleeva (Moscow Chemical Institute) in 1941.

